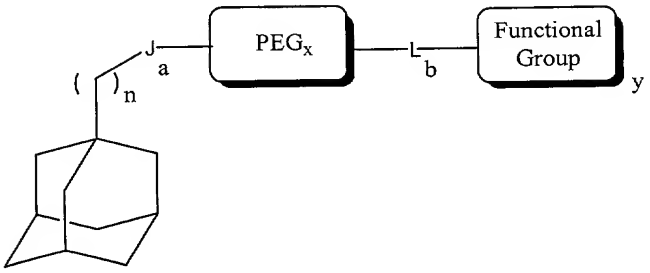
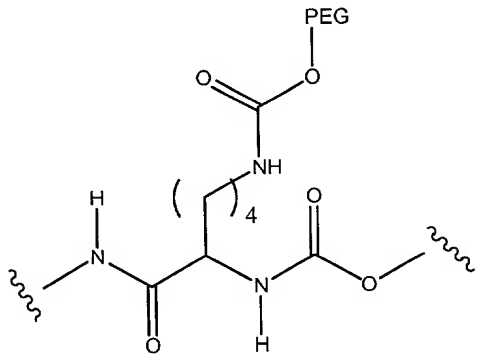
The claimed invention is:

1. An adamantane derivative of the formula:



wherein

J is –NH-, -C(=O)NH-$(CH_2)_d$-, -NH-C(=O)-$(CH_2)_d$-, -CH_2SS-, -C(=O)O-$(CH_2)_e$-O-P(=O)(O-$(CH_2)_e$-Ad)O-,



,

a peptide or polypeptide residue, or

-NH-(C=O)-CH(R^1)-NH-(C=O)-CH(R^1)-NH-;

Ad is adamantyl;

R^1 is -$(CH_2)_a$-CO_2H, an ester or salt thereof; or -$(CH_2)_a$-$CONH_2$;

PEG is -$O(CH_2CH_2O)_z$-, where z varies from 2 to 500;

L is H, -NH_2, -NH-(C=O)-$(CH_2)_e$-(C=O)-CH_2-, -$S(=O)_2$-HC=CH_2-, -SS-, -C(=O)O- or a carbohydrate residue;

a is 0 or 1;

b is 0 or 1;

d ranges from 0 to 6;

e ranges from 1 to 6;

y is 0 or 1; and

x is 0 or 1.

2. A composition comprising a particulate composite of a polymer and a therapeutic agent and an inclusion complex of said polymer and a complexing agent having a functional group.

3. A composition of claim 2, wherein said polymer has host functionality and said complexing agent has guest functionality.

4. A composition of claim 2, wherein said polymer has guest functionality and said complexing agent has host functionality.

5. A composition of claim 2, wherein said polymer has host and guest functionality and comprising a mixture of complexing agents having guest and host functionality.

6. A composition of claim 3, 4, or 5 wherein said host functionality is selected from the group of cyclodextrin, a carcerond, a cavitanal, a crown ether, a cryptand, a cucurbituril, a calixerane, a spherand or a mixture thereof.

7. A composition of claim 3, 4, or 5 wherein said complexing agent further comprises a spacer group.

8. A composition of claim 3, 4, or 5, wherein said inclusion guest is selected from the group consisting of adamantane, diadamantane, naphthalene, and cholesterol.

9. A composition of claim 8, wherein said host functionality is a cyclodextrin and said inclusion guest is adamantane or diadamantane.

10. A composition of claim 2, 3, 4, or 5 wherein said functional group of said functional group is a ligand, nuclear localization signal, endosomal release peptide, endosomal release polymer, a second therapeutic agent, a stabilizing polymer/hydrophilic polymer for stabilization or a mixture thereof; and said spacer group is selected from the group consisting of: a direct link, a phophate group, and polyethylene glycol and a short anionic peptide sequence.

11. A composition of claim 2, 3, 4, or 5 wherein said therapeutic agent is selected from the group consisting of an antibiotic, a steroid, a polynucleotide, small molecule pharmaceutical, a viruse, a plasmid, a peptide, a peptide fragment, a chelating agent, a biologically active macromolecule, and mixtures thereof.

12. A composition of claim 11, wherein said therapeutic agent is a polynucleotide.

13. A method of delivering a therapeutic comprising the step of administering to a person in recognized need of the therapeutic agent a therapeutically effective amount of a composition of claim 2, 3, or 5.

14. A method of preparing a composition comprising the step of:

combining a therapeutic agent, a polymer having host and/or guest functionality, and a complexing agent to form the composition, wherein said polymer and said therapeutic agent form a particulate composite and said polymer and said complexing agent form an inclusion complex.

15. A method of claim 14, wherein said therapeutic agent is first combined with said polymer to form said particulate composite and said particulate

composite is then combined with said complexing agent such that said polymer and said complexing agent form an inclusion complex.

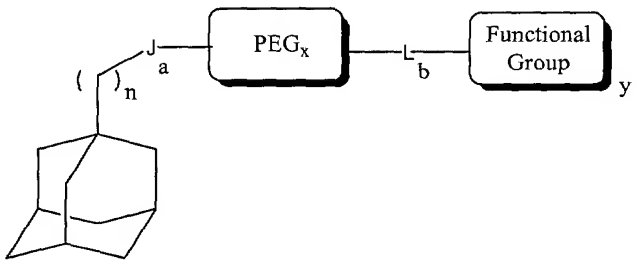
16. A method of claim 14, wherein said polymer is first combined with said complexing agent to form and inclusion complex and said inclusion complex is combined with said therapeutic agent such that said polymer and said therapeutic agent form said particulate composite.

17. A composition comprising a particulate composite of a cyclodextrin containing polymer and a therapeutic agent and an inclusion complex of said cyclodextrin polymer and a complexing agent comprising an inclusion guest selected from adamantane and diadamantane and a functional group.

18. A composition of claim 17, wherein said therapeutic agent is selected from the group consisting of an antibiotic, a steroid, a polynucleotide, small molecule pharmaceutical, a viruse, a plasmid, a peptide, a peptide fragment, a chelating agent, a biologically active macromolecule, and mixtures thereof.

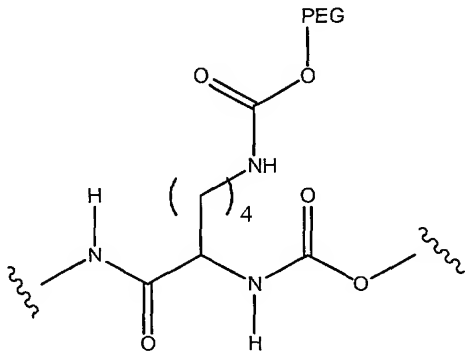
19. A composition of claim 18, wherein said therapeutic agent is a polynucleotide.

20. A composition of claim 17, wherein said complexing agent is an adamantane derivative of the formula:



wherein

J is –NH-, -C(=O)NH-$(CH_2)_d$-, -NH-C(=O)-$(CH_2)_d$-, -CH_2SS-, -C(=O)O-$(CH_2)_e$-O-P(=O)(O-$(CH_2)_e$-Ad)O-,



, or

-NH-(C=O)-CH(R^1)-NH-(C=O)-CH(R^1)-NH-;

Ad is adamantyl;

R^1 is -$(CH_2)_a$-CO_2H, an ester or salt thereof; or -$(CH_2)_a$-$CONH_2$;

PEG is -$O(CH_2CH_2O)_z$-, where z varies from 2 to 300;

L is H, -NH_2, -NH-(C=O)-$(CH_2)_e$-(C=O)-CH_2-, -$S(=O)_2$-HC=CH_2-, -SS-, -C(=O)O- or a carbohydrate residue;

a is 0 or 1;

b is 0 or 1;

d ranges from 0 to 6;

e ranges from 1 to 6;

n ranges from 0 to 6;

y is 0 or 1; and

x is 0 or 1.

21. A method of delivering a therapeutic comprising the step of administering to a person in recognized need of the therapeutic agent a therapeutically effective amount of a composition of claim 17, 18, 19, or 20.